



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

The Polyporaceae of North America—XI. A synopsis of the brown pileate species

WILLIAM ALPHONSO MURRILL

An attempt is made in the present paper to summarize in convenient form for reference the results of former studies covering all North American polypores having a distinct pileus with dark-colored substance, and, in addition, to give generic keys and diagnoses of new genera not already treated that come within this subgroup.

FAMILY POLYPORACEAE

Hymenophore annual or perennial: context fleshy-tough, corky or woody; hymenium poroid or lamelloid, fleshy to woody, never gelatinous.

Synopsis of the subfamilies

Hymenium porose.	
Hymenophore annual.	1. POLYPOREAE.
Hymenophore perennial.	2. FOMITEAE.
Hymenium furrowed.	3. AGARICEAE.

Subfamily I. POLYPOREAE

Hymenophore varied in size and shape, fleshy-tough to corky, annual, sometimes reviving and rarely perennial in the tropics; surface encrusted or anoderm, glabrous or hairy, zonate or azonate: context fibrous, rarely punky, variously colored; tubes cylindrical, sometimes splitting into teeth, usually thin-walled: spores rounded or oblong, brown or hyaline, cystidia frequently present, surface of pileus never conidia-bearing: stipe often present, variously attached.

Synopsis of the Polyporeae with brown context

Hymenophore sessile.	
Spores hyaline.	
Context light-brown.	
Context at first fleshy, becoming slightly corky.	1. <i>Ischnoderma</i> .
Context tough from the first.	
Surface encrusted.	2. <i>Antrodia</i> .
Surface not encrusted.	
Surface glabrous or nearly so.	

- | | |
|--|---------------------------|
| Hymenium alveolate. | 3. <i>Favolus</i> . |
| Hymenium normally poroid. | 4. <i>Hapalopilus</i> . |
| Surface distinctly hairy. | |
| Tubes large and irregular. | 5. <i>Funalia</i> . |
| Tubes small and regular. | 6. <i>Corioloopsis</i> . |
| Context dark-brown. | |
| Context duplex, mostly of intricately woven black hairs. | 7. <i>Trichaptum</i> . |
| Context simple. | |
| Context friable. | 14. <i>Phaeolus</i> . |
| Context tough. | |
| Tubes yellow. | 8. <i>Flaviporus</i> . |
| Tubes brown, rarely greenish. | |
| Tubes entire, surface heavily bearded. | 9. <i>Pogonomyces</i> . |
| Tubes soon splitting into teeth, surface velvety. | 10. <i>Cerrenella</i> . |
| Tubes black. | 11. <i>Nigroporus</i> . |
| Spores brown. | |
| Hymenophore thin, dry, multizonate. | 12. <i>Cyclomyces</i> . |
| Hymenophore not as above. | 13. <i>Inonotus</i> . |
| Hymenophore stipitate. | |
| Spores hyaline. | 14. <i>Phaeolus</i> . |
| Spores brown. | |
| Pileus inverted, pendant. | 15. <i>Coltriciella</i> . |
| Pileus erect, stipe central. | 16. <i>Coltricia</i> . |

1. ISCHNODERMA Karst. Medd. Soc. Faun. et Fl. Fenn.

5: 38. 1879

Type: *Ischnoderma fuliginosum* (Scop.) Murr.

Hymenophore large, annual, epixyloous, sessile; surface pelluclose, glabrous; context light-brown, fleshy to slightly corky, friable when dry; tubes small, thin-walled; spores smooth, hyaline.

Species: *I. fuliginosum* (Scop.) Murr. [see Bull. Torrey Club 31: 606, 607. 1904.]

2. ANTRODIA Karst. Medd. Soc. Faun. et Fl. Fenn.

5: 40. 1879

Type: *Antrodia mollis* (Sommerf.) Karst.

Hymenophore small, annual, epixyloous, sessile or semi-resupinate; surface zonate, encrusted, glabrous; context thin, light-brown, fibrous; tubes short, firm, thin-walled; spores smooth, hyaline.

ANTRODIA MOLLIS (Sommerf.) Karst.

Daedalea mollis Sommerf. Suppl. Fl. Lapp. 271. 1826.*Trametes mollis* Fr. Hym. Eur. 585. 1871.

Antrodia mollis Karst. Medd. Soc. Faun. et Fl. Fenn. **5**: 40. 1879.

Trametes stereoides Bres. Att. I. R. Accad. Sc. ed Art. III. **3**: 92. 1897.

According to Bresadola, this species is the same as *Polyporus stereoides* Fr. (Obs. Myc. **2**: 258. 1818), described from very small specimens collected on old fir trunks in Sweden, but different from *Polyporus cervinus* of Persoon (Myc. Eur. **2**: 87. 1825).

The plant is fairly well known in Europe and temperate North America on decaying wood of beech, maple, linden and other deciduous trees: Finland, *Karsten*; Hungary, *Kmetz*; Tyrol, *Bresadola*; Canada, *Ellis*, *Macoun*, *Dearness*; Maine, *Blake*; New York, *Peck*; Ohio, *Lloyd*.

3. FAVOLUS Beauv. Fl. Owar **1**: 1. *pl. 1*. 1805

Type: *Favolus hirtus* Beauv.

Scenidium Kuntze, Revis. Gen. 515. 1893.

Type: *Favolus hirtus* Beauv.

Hymenophore small, annual, epixylous, sessile, dimidiate or reniform; surface multizonate, margin thin: context thin, leathery, pallid or brown; tubes alveolar: spores smooth, hyaline.

Species: *F. tenuis* (Hook.) Murr., *F. variegatus* (Berk.) Murr. [see Bull. Torrey Club **32**: 99-103. 1905]. Although typically white-fleshed, this genus contains brown forms and *F. variegatus* is usually brown.

4. HAPALOPILUS Karst. Rev. Myc. **3**: 18. 1881

Type: *Hapalopilus rutilans* (Pers.) Murr.

Hymenophore annual, very rarely perennial in the tropics, epixylous, sessile, dimidiate, simple or imbricate; surface anoderm, rarely pelliculose, zonate or azonate, usually brown and glabrous: context brown, leathery or corky, tough or rarely friable when dry; hymenium usually differently colored, tubes small, thin-walled: spores small, usually ovoid, hyaline.

Species: *H. rutilans* (Pers.) Murr., *H. sublilacinus* (Ell. & Ev.) Murr., *H. licnoides* (Mont.) Murr., *H. gilvus* (Schw.) Murr., *H. fulvitinctus* (B. & C.) Murr., *H. hispidulus* (B. & C.) Murr. [see Bull. Torrey Club **31**: 415-419. 1904].

5. FUNALIA Pat. Tax. Hymen. 95. 1900

Type: *Funalia Mons-Veneris* (Jungh.) Pat.

Hymenophore annual, epixylous, sessile, dimidiate, often semi-resupinate; surface anoderm, hairy: context light-brown, duplex, spongy above, coriaceous to woody below; tubes usually large, thin-walled, more or less lacerate: spores smooth, hyaline.

Synopsis of the North American species

1. Northern species; context thick, firm, tubes circular to angular, concolorous.
 1. *F. stuppea*.
- Southern species, confined to the Gulf States and tropical America.
 - 2.
2. Surface hairs small and simple, entire plant soft and flexible.
 2. *F. villosa*.
- Surface hairs conspicuously branched and tufted, plant more or less rigid.
 3. *F. cladotricha*.

1. *Funalia stuppea* (Berk.)

Trametes stuppeus Berk. Ann. Nat. Hist. 7: 453. 1841.

Trametes Peckii Kalchb. Bot. Gaz. 6: 274. 1881.

Described originally from Dr. Richardson's collections at Carlton House, British America, in 1841 and again forty years later from specimens collected by Irish on dead cottonwood trunks in Dakota. Kalchbrenner's description is translated by Peck as follows:

"Pileus corky, dimidiate, sessile, subdecurrent, hairy, zoneless, brownish-ferruginous, becoming pale, the margin acute; pores rather large, varying from rotund to angular, colored nearly like the pileus or when old becoming brown; substance wood-color."

This species is abundant in certain parts of northern and western North America on dead stumps and trunks of cottonwood and other species of poplar. What appears to be a modified form of the same plant has been found on dead willow trees in Kansas. Although similar, all forms of this species are distinct from *Trametes hispida* Bagl. of Europe.

British Columbia, *Macoun*; Montana, *Anderson*; Dakota, *Irish*; Colorado, *Crandall*, *Cowen*; Kansas, *Bartholomew*; Missouri, *Demetrio*; New Mexico, *Earle*.

2. *Funalia villosa* (Sw.)

Boletus villosus Sw. Prodr. 148. 1788. Fl. Ind. Occ. 3: 1923. 1806.

Favolus villosus Fr. Syst. Myc. 1: 344. 1821.

Polyporus villosus Fr. Epicr. 475. 1836-38.

Described originally from plants collected on dead trees in Jamaica as follows:

“*B. acaulis*, submembranaceus fasciatus griseo-albidus villosus, poris difformibus dentatis.”

In his later work Swartz largely supplements the above description. Fries probably did not see the plant until after 1821. Resupinate Cuban forms were determined by Berkeley as *Polyporus cavernulosus* Berk. (Hook. Jour. Bot. 8: 235. 1856), first described from Brazil, while semi-resupinate and pileate forms from tropical America and the Gulf States have long been known as *Polyporus versatilis* Berk. (Lond. Jour. Bot. 1: 150. 1842), described originally from Cuming's collections in the Philippines.

This species is fairly common in the West Indies and Central America, and has been collected in quantity by Langlois in Louisiana. It appears to grow equally well on deciduous and coniferous wood, and varies much in appearance, consistency and size of pores, on all hosts.

Louisiana, *Langlois*; Florida, *Calkins*; Jamaica, *Earle* 430; Cuba, *Earle & Murrill* 169, 294, 550, 598, 626; Nicaragua, *Smith, Shimek*.

3. *Funalia cladotricha* (B. & C.)

Polyporus cladotrichus B. & C. Jour. Linn. Soc. Bot. 10: 309. 1868.

Collected by Wright on dead wood in Cuba and thus described:

“Pileo dimidiato vel e decurrente reflexo strigoso brunneo; poris mediis angulatis, dissepimentis rigidis demum laceratis dentatis.”

“Pileus 2–3 inches broad, 1–2 inches long; pores $\frac{1}{8}$ inch in diameter, 2 lines deep. The pileus has a spongy strigose coating, but not consisting of decumbent fibres as in the last (*P. trichomalus*). *P. endothrix* Berk., from the river Amazon, has much smaller pores.”

SPECIES INQUIRENDÆ

Polyporus Lindheimeri B. & C. Grevillea 1: 50. 1872. Described from plants collected by Lindheimer on *Laurus Sassafras* in Texas as follows:

“Pileus $1\frac{1}{4}$ inch wide, $\frac{1}{2}$ long, often laterally confluent, dirty white, tinged with ash-color, floccose, here and there slightly strigose; hymenium cinereous; pores $\frac{1}{10}$ inch wide, angular.”

The type of this species at Kew is very old and partially destroyed by insects, so that little can be known of the plant until new collections are made in the type locality.

6. *Corioloopsis* gen. nov.

Type : *Polyporus occidentalis* Kl. *Linnaea* 8 : 486. 1833.

Hymenophore thin, flexible or rigid, annual, epixyloous, sessile, dimidiate, often largely resupinate ; surface light-brown, zonate, anoderm, hairy, margin thin : context thin, coriaceous to woody, pale ferruginous, sometimes almost white ; hymenium concolorous, tubes small, regular, thin-walled, entire : spores smooth, hyaline.

Synopsis of the North American species.

- | | |
|--|-----------------------------|
| 1. Pores conspicuous. | 2. |
| Pores inconspicuous, pileus papery, thin, very flexible. | |
| 2. Pores yellowish-brown, pileus usually rather thick and firm. | 1. <i>C. crocata</i> . |
| 3. Pores white or pallid, pileus thin, often narrowly reflexed or entirely resupinate. | 2. <i>C. occidentalis</i> . |
| | 3. <i>C. gibberulosa</i> . |

1. *Corioloopsis crocata* (Fr.)

Polyporus crocatus Fr. *Epicr.* 477. 1836-38.

Polyporus byrsinus Mont. *Pl. Cell. Cuba* 391. *pl.* 15. *f.* 3. 1842.

Polystictus crocatus Fr. *Nov. Symb.* 91. 1851.

Described originally from plants collected on trunks in Mexico by Liebmann. Confused with *C. occidentalis* by many, but plainly distinct. The species has until recently been but sparingly collected in tropical America, as the following specimens at hand will indicate.

Colombia, *Baker* ; Nicaragua, *Wright* 237, *Smith* ; Mexico, *Smith* ; Cuba, *Wright* 306¹/₂ ; *Underwood & Earle* 1580, *Earle & Murrill* 121, 125, 237, 351, 379, 499, 644.

2. *Corioloopsis occidentalis* (Kl.)

Polyporus occidentalis Kl. *Linnaea* 8 : 486. 1833.

Polyporus lenis Lév. *Ann. Sci. Nat. Bot.* III. 9 : 123. 1848.

Polystictus cyclodes Fr. *Nov. Symb.* 90. 1851.

This species was first described from plants in Hooker's herbarium, collected on trunks in the island of St. Vincent by Guilding. *Polyporus lenis* was assigned to specimens collected on

trunks in America by Mougeot and *Polystictus cyclodes* to collections made in the island of San Jan by Oersted. These are probably not half of the names under which the species has been known.

The plant is exceedingly common on dead wood of various kinds throughout tropical America, the following list comprising only a few of the numerous collections examined:

Colombia, *Baker*; Yucatan, *Millspaugh*; Honduras, *Wilson, Brown*; Mexico, *Smith*; Jamaica, *Earle*; Cuba, *Earle, Murrill, Underwood, Britton, Shafer, Hamilton*; Porto Rico, *Earle*.

3. *Corioloopsis gibberulosa* (Lév.)

Polyporus gibberulosus Lév. Ann. Sci. Nat. Bot. III. 5: 139. 1846.

Polystictus extensus Cooke; Sacc. Sylloge Fung. 6: 244. 1888.

Described by Lévillé from Kegel's collections in Dutch Guiana and by Cooke from specimens named by Berkeley in the Hooker herbarium, collected in British Guiana. Cooke published Berkeley's name in *Grevillea* 14: 82. 1886 without a description.

The species ranges northward in varying forms to Central America and the West Indies. The context is not white, but pale ferruginous. Specimens are at hand from Ecuador, *Lagerheim*; Colombia, *Baker*; Mexico, *Smith, Shimek*; Nicaragua, *Smith, Baker 2513*; Jamaica, *Earle 480*; Cuba, *Earle 548, 580, 1105, Underwood & Earle 1496, 1500, Earle & Murrill 30, 85, 119, 120, 128, 134, 136, 206, 214, 218, 223, 259, 330, 343, 368, 384, 394, 400, 418, 452, 645*.

SPECIES INQUIRENDÆ.

Polyporus myrrhinus Kickx, Bull. Acad. Bruxell. 5: 370. 1838.

Polystictus cascus Fr. Nov. Symb. 88. 1851.

Trametes rigida Berk. & Mont. Ann. Sci. Nat. Bot. III. 11: 240. 1849. (*Polystictus rigens* Sacc. & Cub.; Sacc. Sylloge Fung. 6: 274. 1888.)

7. TRICHAPTUM Murr. Bull. Torrey Club 31: 608. 1904

Type: *Trichaptum trichomallum* (Berk. & Mont.) Murr.

Hymenophore annual, epixylous, sessile, dimidiate: context

brown, firm and leathery below, very loosely fibrous and darker above; tubes short, thin-walled, mouths polygonal, at times becoming labyrinthiform: spores smooth, hyaline.

Species: *T. trichomallum* (Berk. & Mont.) Murr. [see Bull. Torrey Club **31**: 608, 609. 1904].

8. *Flaviporus* gen. nov.

Type: *Polyporus rufoflavus* B. & C. Jour. Linn. Soc. Bot. **10**: 310. 1868.

Hymenium annual, often reviving, epixylous, sessile, dimidiate, imbricate; surface encrusted, glabrous: context thick, woody, brown; tubes thin-walled, minute, regular: spores smooth, hyaline.

Synopsis of the North American species

Hymenium pale lemon-yellow.	1. <i>F. rufoflavus</i> .
Hymenium deep orange-colored.	2. <i>F. crocitinctus</i> .

1. *Flaviporus rufoflavus* (B. & C.)

Polyporus rufoflavus B. & C. Journ. Linn. Soc. Bot. **10**: 310. 1868.

Polyporus Braunii Rabh. Rabenhorst's Fung. Europ. Exsic. no. 2005.

Described from Wright's collections in Cuba. Known also from Venezuela through Fendler, and from Mexico through the collections of C. L. Smith. Plants later described as *P. Braunii* were found on palms, which were doubtless brought from tropical America. The name assigned by Berkeley refers to the red surface and bright-yellow hymenium of the plant.

2. *Flaviporus crocitinctus* (B. & C.)

Polyporus crocitinctus B. & C. Journ. Linn. Soc. Bot. **10**: 311. 1868.

The type, collected in Cuba by Wright, is well preserved at Kew. The species has not since been collected.

9. POGONOMYCES Murr. Bull. Torrey Club **31**: 609. 1904

Type: *Pogonomyces hydroides* (Sw.) Murr.

Hymenophore annual, epixylous, dimidiate-sessile to flabelliform, thickly covered with rigid hairs: context dark-brown, punky; tubes short, thick-walled, light brown, mouths small, circular: spores smooth, hyaline.

Species: *P. hydroides* (Sw.) Murr. [see Bull. Torrey Club **31**: 609, 610. 1904].

10. **Cerrenella** gen. nov.

Type: *Irpex tabacinus* B. & C. Grevillea 1: 102. 1872.

Hymenophore thin, effused-reflexed, annual, epixylous; surface brown, zonate, anoderm, margin thin: context thin, coriaceous, brown; hymenium at first poroid, very soon becoming irpiciform, the teeth irregular and compressed: spores smooth, hyaline.

Synopsis of the North American species

Hymenium concolorous, teeth bright-brown in color.

1. *C. tabacina*.

Hymenium of a different color from the pileus, teeth covered with a greenish bloom.

2. *C. coriacea*.

1. **Cerrenella tabacina** (B. & C.)

Irpex tabacinus B. & C. Grevillea 1: 102. 1872.

Described from plants collected by Curtis in the Carolinas. Its favorite host is decaying limbs of oak.

Ravenel, Fung. Car. 3: 22; Georgia, *Ravenel*; Florida, *Lloyd*, *Calkins*; Louisiana, *Langlois*; Missouri, *Demetrio*..

2. **Cerrenella coriacea** (B. & Rav.)

Irpex coriaceous B. & Rav. Grevillea 1: 101. 1872.

Described from Ravenel's South Carolina collections on dead oak branches. According to Berkeley, this species was described by Lévillé from Bogota as *Hydnum trachyodon* (Ann. Sci. Nat. III. 5: 302. 1846) and was likewise found by Wright in Cuba (*I. trachyodon* B. & C. Jour. Linn. Soc. Bot. 10: 326. 1868).

South Carolina, *Ravenel*; Alabama, *Peters*; Iowa, *Holway*.

SPECIES INQUIRENDAE

Irpex pityreus B. & C. Described from small specimens collected by Bennett in Rhode Island.

11. **Nigroporus** gen. nov.

Type: *Polyporus vinosus* Berk. Ann. Mag. Nat. Hist. II. 9: 196. 1852.

Hymenium annual, epixylous, dimidiate-sessile to flabelliform, glabrous: context dark-brown, firm, homogeneous; tubes short, slender, thin-walled, black: spores smooth, hyaline.

Nigroporus vinosus (Berk.)

Polyporus vinosus Berk. Ann. Mag. Nat. Hist. II. 9: 196. 1852.

Described from plants collected in San Domingo. The species is easily recognized by its wine-colored context.

Cuba, *Wright*, *Earle & Underwood* 1574, *Earle & Murrill* 139.

12. CYCLOMYCETELLA Murr. Bull. Torrey Club **31**:

422. 1904

Type: *Cyclomycetella pavonia* (Hook.) Murr.

Hymenophore annual, tough, epixylous, sessile, anoderm, zonate: context thin, fibrous, brown; tubes short, thin-walled, mouths polygonal, becoming concentrically elongated in some species by the splitting of the radial walls: spores ellipsoidal, smooth, ferruginous.

Species: *C. pavonia* (Hook.) Murr. [see Bull. Torrey Club **31**: 422, 423. 1904].

13. INONOTUS Karst. Medd. Soc. Faun. et Fl. Fenn. **5**: 39.

1879

Type: *Inonotus cuticularis* (Bull.) Karst.

Inoderma Karst. Medd. Soc. Faun. et Fl. Fenn. **5**: 39. 1879.
Not *Inoderma* S. F. Gray 1821.

Type: *Inoderma radiatum* (Sow.) Karst.*Inodermus* Quél. Ench. Fung. 173. 1886.Type: *Inodermus hispidus* (Bull.) Quél.*Phaeoporus* Schroet. Krypt. Fl. Schles. **3**: 489. 1888.Type: *Inonotus cuticularis* (Bull.) Karst.

Hymenophore annual, epixylous, sessile, dimidiate, simple or somewhat imbricate, variable in size; surface usually anoderm, brown, hairy or glabrous: context brown, thin and fibrous to spongy or corky; hymenium concolorous, often covered with whitish powder in youth, tubes small, thin-walled: spores smooth, light to dark brown.

Species: *I. hirsutus* (Scop.) Murr., *I. perplexus* (Peck) Murr., *I. dryophilus* (Berk.) Murr., *I. texanus* Murr., *I. jamaicensis* Murr., *I. corrosus* Murr., *I. Wilsonii* Murr., *I. pusillus* Murr., *I. radiatus* (Sow.) Karst., *I. amplectens* Murr., *I. fruticum* (B. & C.) Murr. [see Bull. Torrey Club **31**: 593-601. 1904].

14. PHAEOLUS Pat. Tax. Hymen. 86. 1900

Type: *Phaeolus Schweinitzii* (Fr.) Pat.*Romellia* Murr. Bull. Torrey Club **31**: 338. 1904.Type: *Romellia sistotremoides* (Alb. & Schw.) Murr.

Hymenophore large, irregular, annual, spongy to corky, epixylous; stipe simple, variously attached, wanting at times; surface of pileus anoderm, hispid: context ferruginous, tubes irregular, thin-walled: spores ellipsoidal, smooth, hyaline; cystidia none.

This genus was founded on *Phaeolus sistotremoides* (Alb. & Schw.) Murr. and twelve other species, the majority of which I do not consider congeneric with the type. When I published the genus *Romellia* I was ignorant of the fact that *Phaeolus* had been raised from the subgeneric rank assigned it in 1897 (Ann. Bot. Buitenz. First Suppl. 112).

Species: *P. sistotremoides* (Alb. & Schw.) Murr. [see Bull. Torrey Club 31: 338-340. 1904].

15. COLTRICIELLA Murr. Bull. Torrey Club 31: 348. 1904

Type: *Coltriciella dependens* (B. & C.) Murr.

Hymenophore small, annual, tough, epixylous; stipe attached to the vertex of the pileus; surface of the pileus anoderm, zonate: context spongy, fibrous, ferruginous, tubes angular, one-layered, dissepiments thin: spores ellipsoidal, smooth, ferruginous.

Species: *C. dependens* (B. & C.) Murr. [see Bull. Torrey Club 31: 348. 1904].

16. COLTRICIA S. F. Gray, Nat. Arr. Brit. Pl. 1: 644. 1821

Type: *Coltricia perennis* (L.) Murr.

Strilia S. F. Gray, Nat. Arr. Brit. Pl. 1: 645. 1821.

Type: *Strilia cinnamomea* (Jacq.) S. F. Gray.

Pelloporus Quél. Ench. Fung. 166. 1886.

Type: *Pelloporus triqueter* (Secr.) Quél.

Mucronoporus Ell. & Ev. Jour. Myc. 5: 28. pl. 8. 1889.

Type: *Mucronoporus tomentosus* (Fr.) Ell. & Ev.

Onnia Karst. Finlands Basidsv. 326. 1889.

Type: *Onnia circinata* (Fr.) Karst.

Xanthochrous Pat. Cat. Tun. 51. 1897.

Type: *Xanthochrous tomentosus* (Fr.) Pat.

Hymenophore annual, terrestrial or humus-loving, simple, small to medium, usually circular and central-stemmed; surface anoderm, brown, zonate or azonate: context brown, coriaceous to spongy; hymenium concolorous, covered with yellowish or whitish powder when young, tubes thin-walled, at length fimbriate: spores smooth, rounded, ferruginous, cystidia rarely present.

Species: *C. cinnamomea* (Jacq.) Murr., *C. perennis* (L.) Murr., *C. parvula* (Kl.) Murr., *C. tomentosa* (Fr.) Murr., *C. obesa* (Ell. & Ev.) Murr., *C. Memmingeri* Murr. [see Bull. Torrey Club 31: 340-348. 1904].

Subfamily 2. FOMITEAE

Hymenophore large, woody, perennial, rarely small or annual; surface anoderm or encrusted, usually sulcate, sometimes varnished; context punky or woody, variously colored; tubes cylindrical, usually thick-walled: spores rounded, smooth or verrucose, hyaline or brown, cystidia frequently present, surface conidia-bearing in a few species: stipe rarely present, the hymenophore usually being sufficiently elevated by its host.

Annual forms and species in a few genera connect this group with the *Polyporaceae*; while the tendency at times to produce a daedaleoid hymenium, shown especially in *Porodaedalea*, connects it with the *Agariceae*.

Synopsis of the Fomiteae with brown context

Surface of the hymenophore covered with reddish-brown varnish, context corky.	1. <i>Ganoderma</i> .
Surface of the hymenophore not as above.	
Context olivaceous.	2. <i>Fomitella</i> .
Context brown or dark-red.	
Hymenophore plainly stipitate, simple.	3. <i>Amauroderma</i> .
Hymenophore sessile, cespitose, arising from a common trunk or tubercle.	4. <i>Globifomes</i> .
Hymenophore truly sessile, dimidiate or unguulate, simple or imbricate.	
Hymenium labyrinthiform, varying to porose, tubes not distinctly stratified.	5. <i>Porodaedalea</i> .
Hymenium porose, tubes distinctly stratified.	
Pileus covered with a horny crust, context punky.	6. <i>Elfvigia</i> .
Pileus not covered with a horny crust, or, if encrusted, context woody.	7. <i>Pyropolyporus</i> .
Context dark-purple or black.	8. <i>Nigrofomes</i> .

1. GANODERMA Karst. Rev. Myc. 3: 17. 1881

Type: *Ganoderma flabelliforme* (Scop.) Murr.

Placodes Quél. Ench. Fung. 170. 1886.

Type: *Ganoderma flabelliforme* (Scop.) Murr.

Hymenophore large, sessile or stipitate, perennial or annual, epixyloous; surface sulcate, covered with reddish-brown varnish; context punky, brown, rarely pallid; tubes cylindrical, concolorous: spores ovoid, brown.

Species: *G. Tsugae* Murr., *G. flabelliforme* (Scop.) Murr., *G. sessile* Murr., *G. parvulum* Murr., *G. Oerstedii* (Fr.) Murr., *G. zonatum* Murr., *G. sulcatum* Murr., *G. nutans* (Fr.) Pat. [see Bull. Torrey Club 29: 599-608. 1902].

2. *Fomitella* gen. nov.

Type: *Fomitella supina* (Sw.) Murr. (*Boletus supinus* Sw. Fl. Occ. Ind. 3: 1926. 1806).

Hymenium sessile, at times semi-resupinate, appanate, epixyloous; surface glabrous, anoderm to encrusted, sulcate with age: context woody or slightly punky, brownish-olivaceous, rarely varying to pallid; tubes minute, cylindrical, usually thick-walled, rarely stratose: spores smooth, hyaline.

Fomitella supina (Sw.)

Boletus resupinatus Sw. Prod. 149. 1788. Not *B. resupinatus* Fl. Dan. pl. 844.

Boletus supinus Sw. Fl. Occ. Ind. 3: 1926. 1806.

Polyporus valenzuelianus Mont. Pl. Cell. Cuba 398. pl. 15. f. 4. 1842.

Polyporus guadelupensis Lév. Ann. Sci. Nat. Bot. III. 5: 134. 1846.

Polyporus hemileucus B. & C. Jour. Linn. Soc. Bot. 10: 312. 1868.

Polyporus plebeius cubensis B. & C. Jour. Linn. Soc. Bot. 10: 313. 1868.

The brief description originally given of this species in the Prodrômus is slightly changed and much enlarged by the author in his Flora of the West Indies. He had in the meantime discovered that the plant is not always resupinate and that the earlier name was preoccupied. The habitat is here given as "Trunks of old trees in the mountains of Jamaica."

Montagne's description is characteristically complete and is accompanied by excellent figures. In commenting upon Berkeley's opinion that *P. valenzuelianus* is identical with *P. supinus* of Swartz, Montagne says that, if it is that species Swartz' name is "thoroughly inappropriate and repugnant." He then quotes Fries' comment in Novae Symbolae to the effect that the two species differ decidedly in color.

Only one specimen of *P. valenzuelianus*, so named, is to be found at Kew from the West Indies. The others are all from South Carolina and Georgia. In the United States, specimens have usually been determined as *P. hemileucus* B. & C., described originally from Cuba and identical with *P. valenzuelianus* and *P. supinus*.

Types of *P. plebeius cubensis* also agree with the above, though the specimens are older and more or less encrusted with a dark purplish covering.

Few polypores are more common in Cuba than this one and a good series of specimens showing nearly all known variations may often be picked from one log. There are, however, in the collection here some plants from Florida which show two variations not yet seen in specimens from elsewhere. Some of these have the context and pores nearly white, instead of olive-colored, and others show distinctly daedaleoid variations in the hymenium. How much the steam treatment used by Calkins may have affected these specimens it is difficult to say.

This species occurs on fallen deciduous wood throughout tropical America and the states bordering the gulf of Mexico, being found as far north as South Carolina.

Ell. & Ev. N. A. Fung. 1704; Georgia, *Ravenel, Harper*; South Carolina, *Ravenel*; Alabama, *Earle, Baker, Underwood*; Louisiana, *Langlois, Lloyd*; Texas, *Hodson*; Florida, *Martin, Rau, Calkins, Rolfs, Ives*; Cuba, *Wright 252, Earle 153, Earle & Wilson 230, Earle & Underwood 588, 1123, 1501, 1525, Earle & Murrill 107, 205, 224, 230, 255, 342, 358, 360, 370, 483, 527, 593*; Porto Rico, *Earle 169, 171*; Jamaica, *Underwood 2324, 2832, 2835, Earle 245 a*; Nicaragua, *C. L. Smith 74*.

3. *Amauroderma* gen. nov.

Type: *Amauroderma regulicolor* (Cke.) Murr.

Hymenophore large, epixylous, stipitate, the stipe often much elongated; surface smooth, encrusted, not varnished: context brown, punky; tubes cylindrical, concolorous, the mouths usually light-colored at first: spores ovoid or globose, brown.

The generic name here employed was used by Patouillard (Tax. Hymen. 105. 1900) for a subdivision of the genus *Ganoderma*, referring to the *dark*, namely, *not shining*, surface of certain species. Members of the genus within our limits are confined to the tropics.

Synopsis of the North American species

- | | |
|--|----------------------------|
| 1. Pileus less than 5 cm. in diameter, simple, tubes 8 to a mm. | 1. <i>A. regulicolor</i> . |
| Pileus 10 cm. or more in diameter. | 2. |
| 2. Stipe laterally attached, plants caespitose, tubes 5 to a mm. | 2. <i>A. coffeatum</i> . |
| Stipe centrally attached, plants simple, spores spherical, echinulate. | 3. <i>A. Chaperi</i> . |

1. **Amauroderma regulicolor** (Cooke)

Fomes regulicolor Cooke, Grevillea **15**: 21. 1886.

This species occurs on decaying roots in Cuba, but is probably rare, being known only from the original collections.

2. **Amauroderma coffeatum** (Berk.)

Polyporus coffeatus Berk. Ann. Nat. Hist. **3**: 385. 1839.

Described from Guilding's collections in the island of St. Vincent. The species grows on decaying trunks, and is known only from the type locality.

3. **Amauroderma Chaperi** (Pat.)

Ganoderma Chaperi Pat. Jour. Botanique **4**: 197. 1890.

Described from plants collected by Chaper in Cuba and deposited in the herbarium at Paris.

4. **GLOBIFOMES** Murr. Bull. Torrey Club **31**: 424. 1904.

Type: *Globifomes graveolens* (Schw.) Murr.

Hymenophore large, woody, encrusted, perennial, epixylous, compound: context ferruginous, punky; tubes cylindrical, thick-walled, stratose: spores ovoid, smooth, ferruginous.

Species: *G. graveolens* (Schw.) Murr. *l. c.*

5. **Porodaedalea** gen. nov.

Type **Porodaedalea Pini** (Thore) Murr.

Hymenophore large, perennial, epixylous, sessile, conchate to ungluate; surface anoderm, sulcate, usually rough: context brown and woody; tubes concolorous, rarely in distinct layers, the hymenium varying from porose to daedaleoid: spores smooth, hyaline at maturity, becoming brownish with age, cystidia conspicuous.

Porodaedalea Pini (Thore)

Boletus Pini Thore, Chlor. Land. 487. 1803. Brot. Fl. Lusit. **2**: 468. 1804.

Daedalea Pini Fr. Syst. Myc. **1**: 336. 1821; Linnaea **5**: 514. 1830.

Polyporus Pini Pers. Myc. Eur. **2**: 83. 1825.

Fomes Abietis Karst. Bidr. Finlands Nat. och Folk **37**: 242. 1882.

Polyporus piceinus Peck, Rept. N. Y. State Mus. Nat. Hist. **42**: 25. 1889.

Trametes Pini Abietis Karst. Finlands Basidsv. 336. 1889.

This abundant and variable species was transferred to *Mucronoporus* by Ellis on account of its spiny hymenium, but it is best known as a *Trametes*. Besides its published specific names several manuscript names have been assigned to it, among which are *Polyporus gausapatus* Berk. & Rav. on pine, *Daedalea vorax* Harkness on *Abies Douglasii* in California and *Daedalea vetusta* Ell. & Hark., on white cedar in New Jersey.

It seems that this plant is more sensitive to changes in host than almost any other of its kind. One would expect a parasitic species like this to show more variation than an ordinary dead-wood species, but the forms here assumed on different hosts and even on the same host under different conditions are surprising. I am supposing that the range of forms found on pine, spruce and other conifers represent a single species. They have all seemed so to me, and Dr. Schrenk expects shortly to prove their identity by the completion of a series of inoculation experiments covering various hosts.

The present species is too well known throughout both Europe and America as a destructive parasite of coniferous trees to require a list of specimens collected. All published exsiccati covering the group contain it and fresh material may be gathered in almost any locality.

6. ELFVINGIA Karst. Finlands Basidsv. 333. 1889.

Type: *Elfvincia lipsiensis* (Batsch) Murr.

Xylopilus Karst. Bidr. Finlands Nat. och Folk 37: 69. 1882.

Type: *Xylopilus crassus* (Fr.) Karst.

Hymenophore large, epixylous, sessile, appanate or unguate; surface sulcate, horny-encrusted: context brown, punky; tubes brown, cylindrical, stratose, thick-walled, mouths whitish when young: spores brown, rarely hyaline; conidia present in most species on the surface of the pileus.

Species: *E. fomentaria* (L.) Murr., *E. fasciata* (Sw.) Murr., *E. reniformis* (Morg.) Murr., *E. megaloma* (Lév.) Murr., *E. tornata* (Pers.) Murr., *E. Lionnetii* (Rolland) Murr. [see Bull. Torrey Club 30: 296-301. 1903].

An examination of Schweinitz' type has shown his *Polyporus lobatus* to be a somewhat distorted form of *Elfvincia reniformis*. *P. lobatus* Schw. is not tenable, however, because of *P. lobatus* Schrad.

7. PYROPOLYPORUS Murr. Bull. Torrey Club **30**: 109. 1903.

Type: *Boletus igniarius* L.

Mison Adans. Fam. **2**: 10. 1763. Not associable with a binomial species.

Type: *Boletus igniarius* L. (Micheli's *pl.* 62).

Agaricon Adans. Fam. **2**: 10. 1763. Not *Agaricus* L. 1753.

Type: *Boletus igniarius* L. (Tournefort's *pl.* 333).

Phellinus Quél. Ench. Fung. 172. 1886. Not *Phelline* Poir. 1826.

Type: *Boletus igniarius* L.

Hymenophore large, perennial, epixylous, sessile, unguulate or applanate; surface sulcate, usually anoderm and often rough or rimose: context woody or punky, brown, rarely dark-red; tubes brown, cylindrical, stratose, usually thick-walled: spores smooth, ferruginous, rarely hyaline.

Species: *P. igniarius* (L.) Murr., *P. fulvus* (Scop.) Murr., *P. crustosus* Murr., *P. Calkinsii* Murr., *P. Everhartii* (Ell. & Gall.) Murr., *P. Robiniae* Murr., *P. praerimosus* Murr., *P. Underwoodii* Murr., *P. juniperinus* (Schrenk) Murr., *P. Earlei* Murr., *P. conchatus* (Pers.) Murr., *P. Haematoxyli* Murr., *P. Langloisii* Murr., *P. Ribis* (Schum.) Murr., *P. yucatanensis* Murr., *P. senex* (Nees & Mont.) Murr., *P. linteus* (B. & C.) Murr., *P. jamaicensis* Murr. [see Bull. Torrey Club **30**: 109-120. 1903].

8. NIGROFOMES Murr. Bull. Torrey Club **31**: 425. 1904.

Type: *Nigrofomes melanoporus* (Mont.) Murr.

Hymenophore large, perennial, epixylous, sessile: context woody, purple; tubes cylindrical, stratose, thick-walled, black: spores ovoid, smooth, hyaline.

Species: *N. melanoporus* (Mont.) Murr. *l. c.*

Subfamily 3. AGARICEAE

Hymenium annual, very rarely perennial, coriaceous to woody, variable in size; surface anoderm, hairy or glabrous, variously marked: context white or brown, fibrous, woody or punky; hymenium exceedingly variable, normally labyrinthiform or lamel-loid, but often poroid or even irpiciform, never stratified: spores smooth, brown or hyaline.

Poroid and irpiciform plants of this group are difficult to separate from certain species of the *Polyporaceae*; forms of *Agaricus confragosus* in particular being troublesome to the beginner. On

the other hand, there is little to cause confusion between this group and the *Fomiteae*, if we except the single distinctly perennial species of *Agaricus* and the daedaleoid forms of *Porodaedalea*.

Synopsis of the Agariceae with brown context

Hymenophore sessile, furrows radiate. 1. *Gloeophyllum*.
Hymenophore stipitate, furrows concentric. 2. *Cycloporus*.

1. GLOEOPHYLLUM Karst. Bidr. Finlands Nat. och Folk **37**:
x, 79. 1882

Type: *Sesia hirsuta* (Schaeff.) Murr.

Sesia Adans. Fam. **2**: 10. 1763. Not associable with a binomial species.

Type: *Sesia hirsuta* (Schaeff.) Murr.

Serda Adans. Fam. **2**: 11. 1763. Not associable with a binomial species.

Type: *Sesia hirsuta* (Schaeff.) Murr.

Lenzitina Karst. Finlands Basidsv. 337. 1889.

Type: *Sesia hirsuta* (Schaeff.) Murr.

Hymenophore small, annual, epixylous, sessile; surface hairy or glabrous, anoderm, often zonate: context tough, brown; hymenium normally lamelloid or daedaleoid, but frequently poroid in some species: spores smooth, hyaline.

According to the rules now followed by most American botanists *Sesia* must be replaced by *Gloeophyllum*, as follows:

Species: *Gloeophyllum hirsutum* (Schaeff.) Murr., **Gloeophyllum Berkeleyi** (Sacc.) Murr., **Gloeophyllum striatum** (Sw.) Murr., **Gloeophyllum pallidofulvum** (Berk.) Murr. [see Bull. Torrey Club **31**: 602-606. 1904].

2. CYCLOPORUS Murr. Bull. Torrey Club **31**: 423. 1904

Type: *Cycloporus Greenei* (Berk.) Murr.

Hymenophore annual, tough, anoderm, terrestrial, centrally stipitate: context soft, spongy, ferruginous; pores at first polygonal, soon becoming continuous concentric furrows, dissepiments thin, lamelloid: spores ovoid, smooth, ferruginous.

In publishing the above genus I neglected to state that the name had been previously used by Patouillard for a subgenus of his genus *Xanthochrous* (Ann. Bot. Buitenz. First Suppl. **113**. 1897).

Species: *C. Greenei* (Berk.) Murr. *l. c.*

Index to genera

Amauroderma	366	Ganoderma	364
Antrodia	354	Globifomes	367
Cerrenella	361	Gloeophyllum	370
Coltricia	363	Hapalopilus	355
Coltriciella	363	Inonotus	362
Coriolopsis	358	Ischnoderma	354
Cyclomycetella	362	Nigrofomes	369
Cycloporus	370	Nigroporus	361
Elfvigia	368	Phaeolus	362
Favolus	355	Pogonomyces	360
Flaviporus	360	Porodaedalea	367
Fomitella	365	Pyropolyporus	369
Funalia	356	Trichaptum	359

NEW YORK BOTANICAL GARDEN.